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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,564	08/30/2006	Bernardo Gabriel Mindlin	15670-057US1 SD2003-222	6479

20985 7590 02/18/2009

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EXAMINER	
BORSETTI, GREG	

ART UNIT	PAPER NUMBER
2626	

NOTIFICATION DATE	DELIVERY MODE
02/18/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Advisory Action Before the Filing of an Appeal Brief	Application No.	Applicant(s)	
	10/568,564	MINDLIN ET AL.	
	Examiner	Art Unit	
	GREG A. BORSETTI	2626	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 29 January 2009 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: _____.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.

12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____

13. ☐ Other: _____.

2/11/2009

/Talivaldis Ivars Smits/
Primary Examiner, Art Unit 2626

Continuation of 11. does NOT place the application in condition for allowance because: Response to Arguments

1. Applicant argues "spectral features is not recited by claim 1. Instead, claim 1 extracts a set of topological indices…Applicant disagree with the Office's apparent association. (Remarks, Page 10, 4) The examiner agrees that spectral features are not recited in the claim and that claim 1 recites a set of topological indices. However, Uchiyama was provided to teach an overall comparison from features extracted from spectral data. Mindlin provides the extraction of topological indices. Trevisan was provided to combine both Uchiyama and Mindlin by showing that it would have been obvious to model the chaotic behavior of the vocal fold oscillations for speaker verification as is recited in Trevisan. Therefore, the examiner contends that the combination of Uchiyama (a speaker verification system) and Mindlin (a method of modeling and using topological template verification for chaotic behavior in dynamical systems) would have been obvious to someone of ordinary skill in the art at the time of the invention. The argument is not persuasive.

2. Applicant further argues "Uchiyama fails to teach or suggest the claimed topological indices. Accordingly, Uchiyma fails to teach or suggest extracting a set of topological indices from an embedding of spectral functions of the speech signal and a reference signal" (Remarks, Page 11, 3) As is stated above, Uchiyama was not relied upon to teach the topological indices as recited in the claim. Mindlin was relied upon to teach the indices and it does so in Mindlin, Section 4, Embedding, furthermore Fig. 1 shows that the topological invariants are developed from the embedding. The argument is not persuasive.

3. Applicant further argues "Mindlin's Abstract and the rest of Mindlin's disclosure are silent on processing a speech signal or anything related to characterizing a speaker." (Remarks, Page 11, 5) The examiner acknowledges this fact and had provided Trevisan as evidence to provide motivation for the combination of Uchiyama and Mindlin. Trevisan was provided to combine both Uchiyama and Mindlin by showing that it would have been obvious to model the chaotic behavior of the vocal fold oscillations for speaker verification as is recited in Trevisan. Therefore, the examiner contends that the combination of Uchiyama (a speaker verification system) and Mindlin (a method of modeling and using topological template verification for chaotic behavior in dynamical systems) would have been obvious to someone of ordinary skill in the art at the time of the invention. The argument is not persuasive.

4. Applicant further argues "Trevisan also completely fails to teach or suggest generating, based on a selection of the topological indices, a biometric characterization of the speaker." (Remarks, Page 11, 6) Trevisan was provided as motivation for the combination of Uchiyama and Mindlin, as stated above. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The argument is not persuasive.

5. Applicant further argues "As previously noted, topological indices as claimed are not equivalent to Uchiyama's features." Furthermore, one of ordinary skill in the art would recognize that one cannot compute a distance between the claimed topological indices. Thus, the topological indices as claimed still are not equivalent to Uchiyama's features." (Remarks, Page 12, 5) The examiner agrees that the topological indices and the spectral features are not equivalent. However, the examiner contends they are analogous in their usage as motivated by Trevisan. Both are being used to define speaker templates. The argument is not persuasive.

6. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a set of topological indices that describe … the natural reference signal, Remarks, Page 12, 8) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

7. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a periodic orbit from a power spectrum of an audio reference in a three-dimensional space, Remarks, Page 13, 3) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

8. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the claimed subject matter requires the same audio reference for both the voice print of the unknown speaker and the voice prints in the database, Remarks, Page 13, 5) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

9. Applicant further argues "First Mindlin and Uchiyama do not teach or suggest the claimed elements. Second, Uchiyama's storage device would have to be modified in such a way that the modification would make Uchiyama's system unusable because using topological numbers instead of Uchiyama's features in Uchiyama's distance computation would made Uchiyama's calculating part, and accordingly Uchiyama's decision part, inoperable because Uchiyama's parts do not use topological numbers to distinguish a speaker from other speakers and Uchiyama's parts are incompatible with topological numbers. Further, Trevisan also lacks the claimed elements as well as a motivation to change Uchiyama's system" (Remarks, Page 14, 1) The examiner respectfully disagrees. Uchiyama was provided to teach an overall comparison from features extracted from spectral data. Mindlin provides the extraction of topological indices. Clearly, one of ordinary skill in the art would not apply Uchiyama's distance computation with Mindlin's extracted topological features because it taking the comparison and the templates out of context with each other. Mindlin provides a comparison of the topological templates (briefly gone over on Page 230, Fig. 1), whereas Uchiyama provides a comparison of speaker templates for speaker verification. Trevisan further provides motivation that it would have been obvious to someone of ordinary skill in the art at the time of the invention to combine Mindlin with the Uchiyama method. The argument is not persuasive.

10. Applicant further argues "Uchiyama disclosure completely fails to disclose a set of rational numbers characterizing topological features as claimed. Accordingly, Uchiyama completely fails to describe a storage medium that stores a set of rational numbers characterizing topological features of spectral functions to distinguish a speaker from other speakers." (Remarks, Page 14, 5) The examiner agrees that Uchiyama does not teach rational numbers characterizing topological features. Mindlin was used to teach this aspect where Uchiyama was provided to provide an overall framework for the speaker verification aspect of the invention where the combination is motivated by Trevisan. The argument is not persuasive.

11. Applicant further argues "Mindlin is silent on processing voice data or anything related to distinguishing a speaker…from

other speakers." (Remarks, Page 14, 6) The examiner agrees with the assertion, however Mindlin was not used to provide the comparison of voice data. Uchiyama was provided to provide an overall framework for the speaker verification aspect of the invention where the combination is motivated by Trevisan. The argument is not persuasive.

12. Applicant argues "The Office fails to completely address the limitation of a periodic orbit for a power spectrum of an audio reference in a three-dimensional space as required by claim 22." (Remarks, Page 15, 2) The examiner apologizes for the confusion but disagrees. Uchiyama provides the comparison of speech data to distinguish a speaker from other speakers. Mindlin provides the limitation of a periodic orbit of a power spectrum of a function in a three-dimensional space. Trevisan was supplied to motivate their combination with the modeling of the vocal fold oscillations, an audio signal defining a function of the vocal fold oscillations (speech), using chaos theory for speaker verification. Therefore, Trevisan teaches that it would have been obvious to model speaker verification using chaos theory and thus, the combination of Mindlin with Uchiyama would have been obvious to someone of ordinary skill in the art at the time of the invention. The argument is not persuasive.

13. Applicant further argues "One of ordinary skill in the art would recognize the difference between an audio reference and Uchiyama's reference features because Uchiyama's reference features are based on a speaker" (Remarks, Page 15, 4) The examiner disagrees. The specification, Page 2, 0007, specifically teaches that the comparison is between a speculative speaker and a reference speaker, both of which are speech signals converted to periodic orbits from their power spectrum and finally converted to rational numbers representing the speaker qualities from both the speculative and reference speakers to determine if they are one and the same. The argument is not persuasive.

14. Applicant further argues "Further, Uchiyama's storage device...to distinguish a speaker from other speakers. Trevisan also lacks the claimed elements as well as a motivation to change Uchiyama's system." (Remarks, Page 15, 5) The examiner disagrees, refer to response from section 9.

15. Applicant further argues "Uchiyama and Mindlin disclosures do not make comparisons between rational numbers of the known speaker and topological rational numbers from the voice sample." (Remarks, Page 16, 1) The examiner disagrees. Trevisan was supplied to provide motivation for the combination of Uchiyama and Mindlin. Trevisan teaches the modeling of vocal fold oscillations by chaos theory (Mindlin) as it may be applied to speaker verification (Uchiyama). Uchiyama provides the framework for speaker verification while Mindlin provides the comparison between templates and Trevisan teaches that the templates of Mindlin can represent signals representative of vocal fold oscillations, or speech signals. .